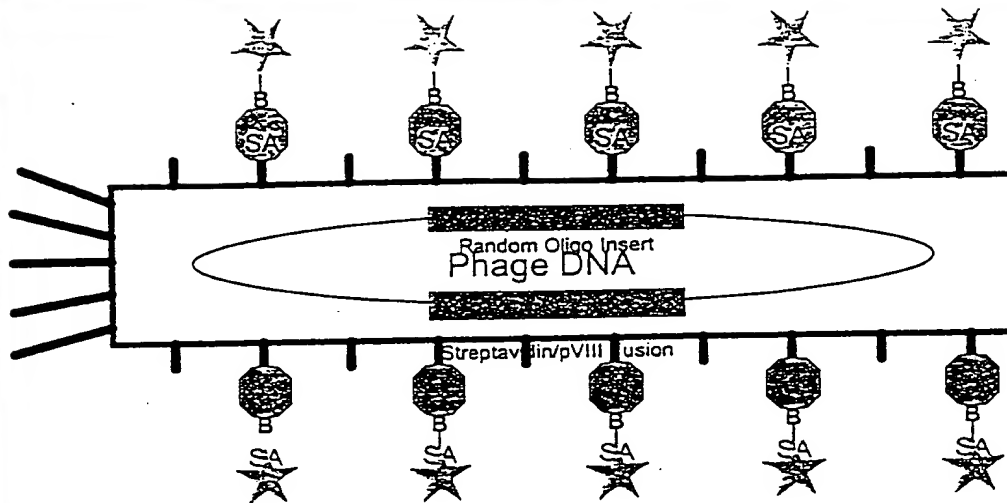


Synthetic Compounds Displayed on Phage



= Biotinylated
Library Member

FIG. 1

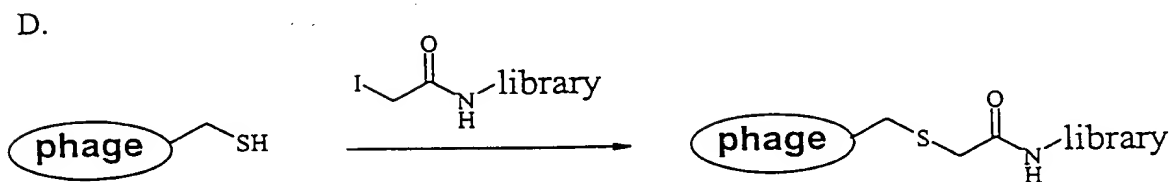
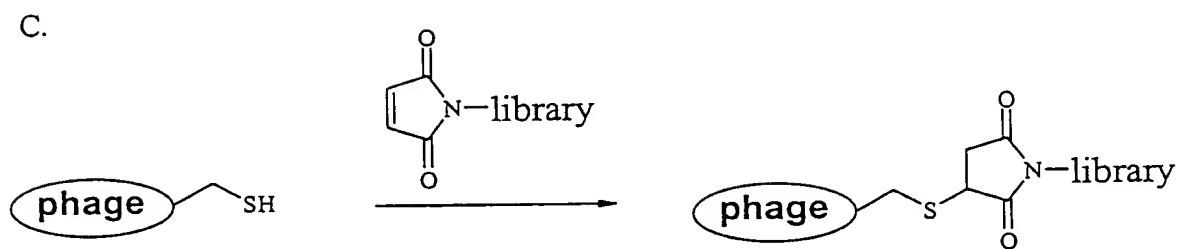
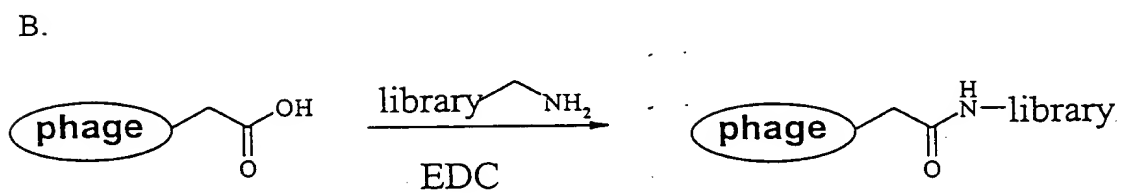
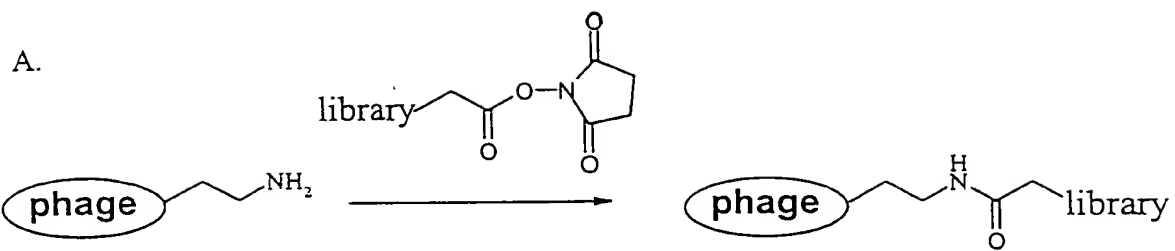
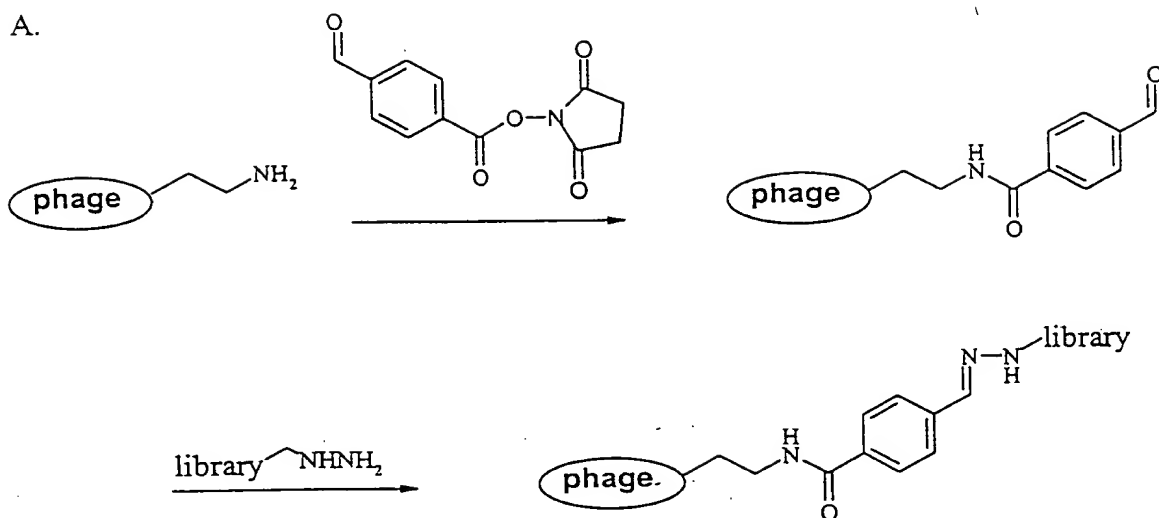


FIG. 2

A.



B.

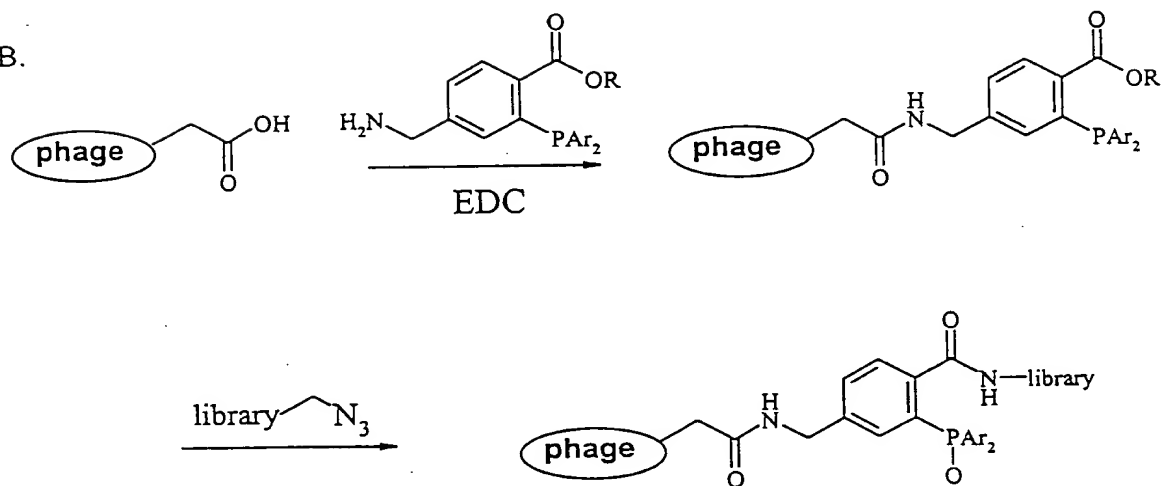
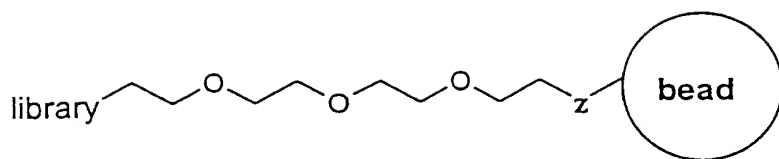
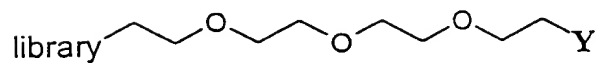


FIG. 3



Z= attachment to solid support during synthesis



Y= functionality by which to conjugate to phage



phage

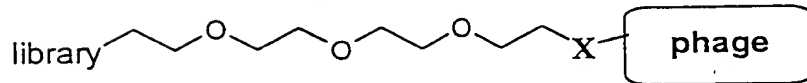


FIG. 4

Functionality

Resin Attachment

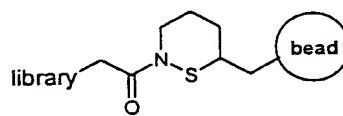
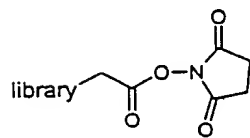
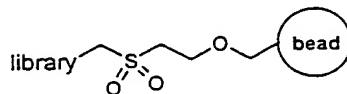
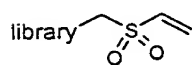
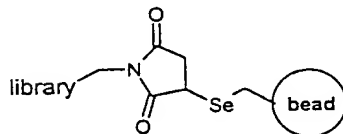
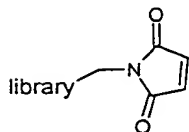
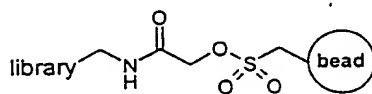
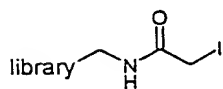
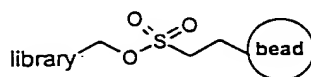
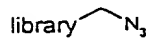
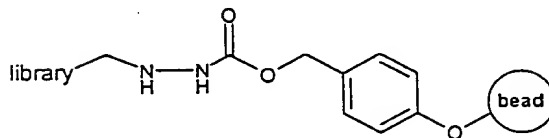
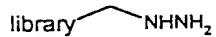
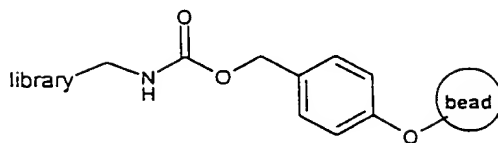


FIG. 5

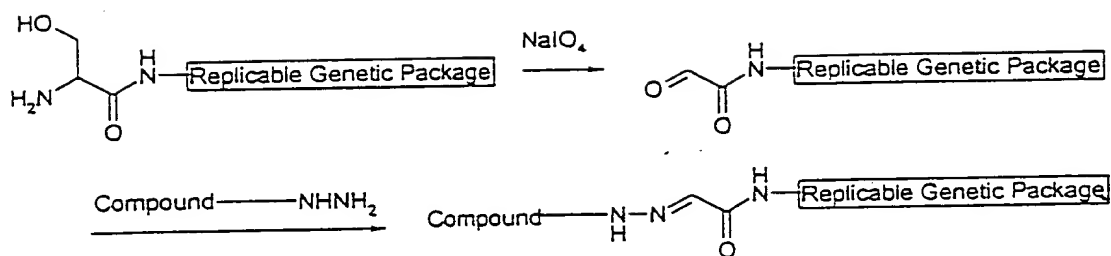


FIG. 6

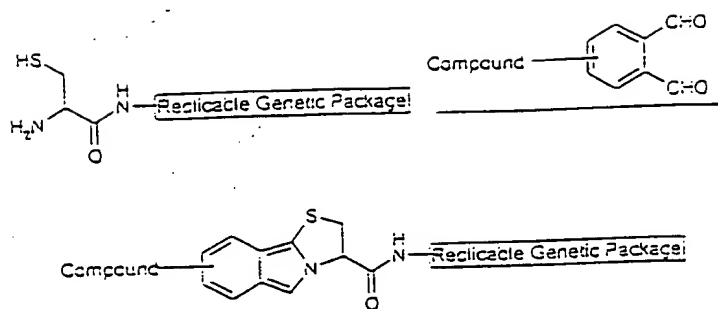


FIG. 7A

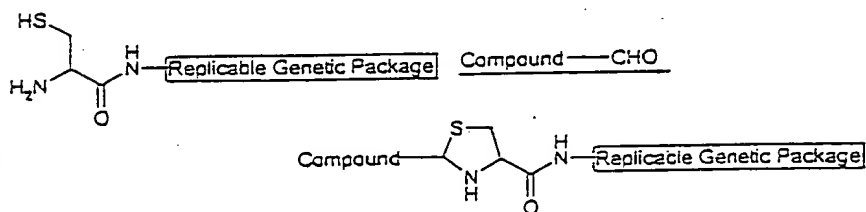


FIG. 7B

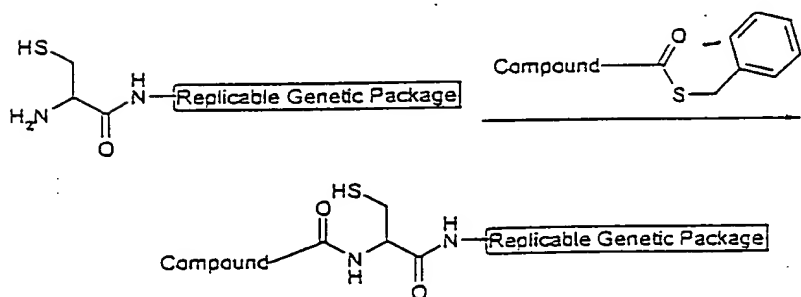
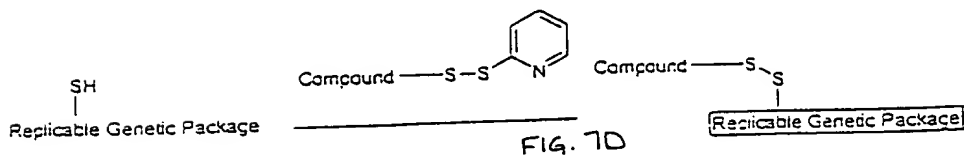


FIG. 7C



000000 52552900

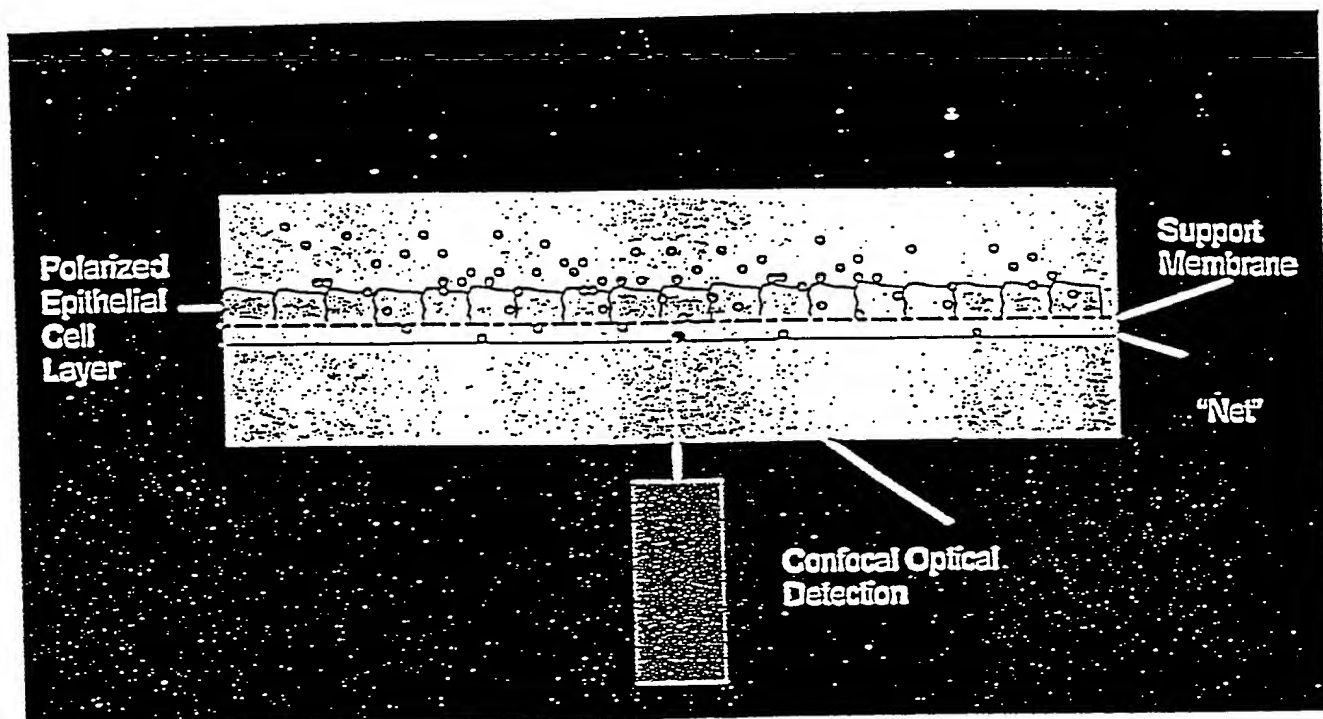


FIG. 8

Filamentous phagemid display (gene VIII)

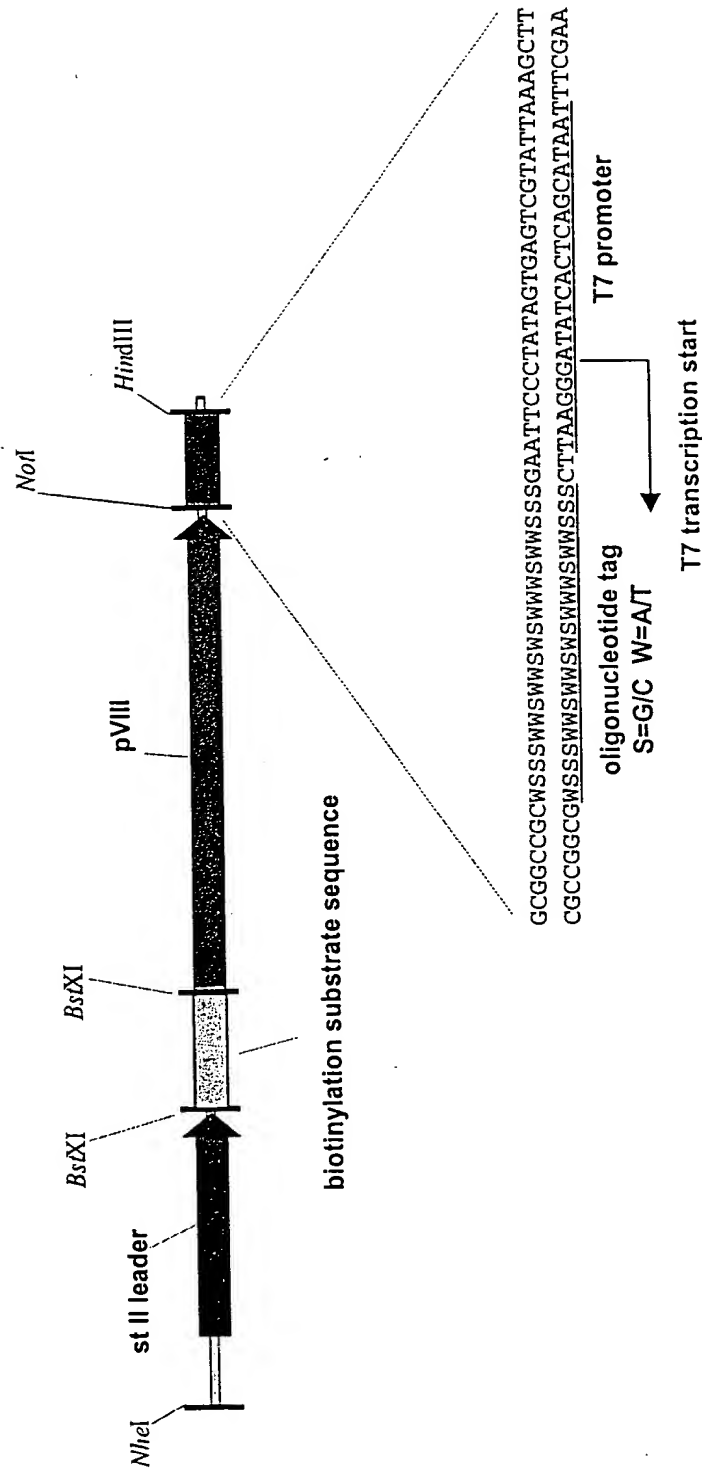


Fig. 9

Filamentous phagemid display (gene VIII)

A.

biotin
 |
 G G L N D I F E A Q K I E W H E G G G S
 GCGGGCTTAATGATATTTTGAGGCTCAGAAGATTGAGTGGCATGAGGAGCGGGGTAGC . . gene 8
 biotinylation substrate sequence flexible spacer

T7 display (gene 10B)

B.

biotin
 |
 N S G G G L N D I F E A Q K I E W H E *
 gene 10B . . AATTCTGGAGCGGGGTCTTAATGATATTTTGAGGCTCAGAAGATTGAGTGGCATGAGTAAAGTAACTAA
 spacer biotinylation substrate sequence

FIG. 10

Absorbance (405 nm)

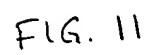


FIG. 11

T7 display (gene 10B)

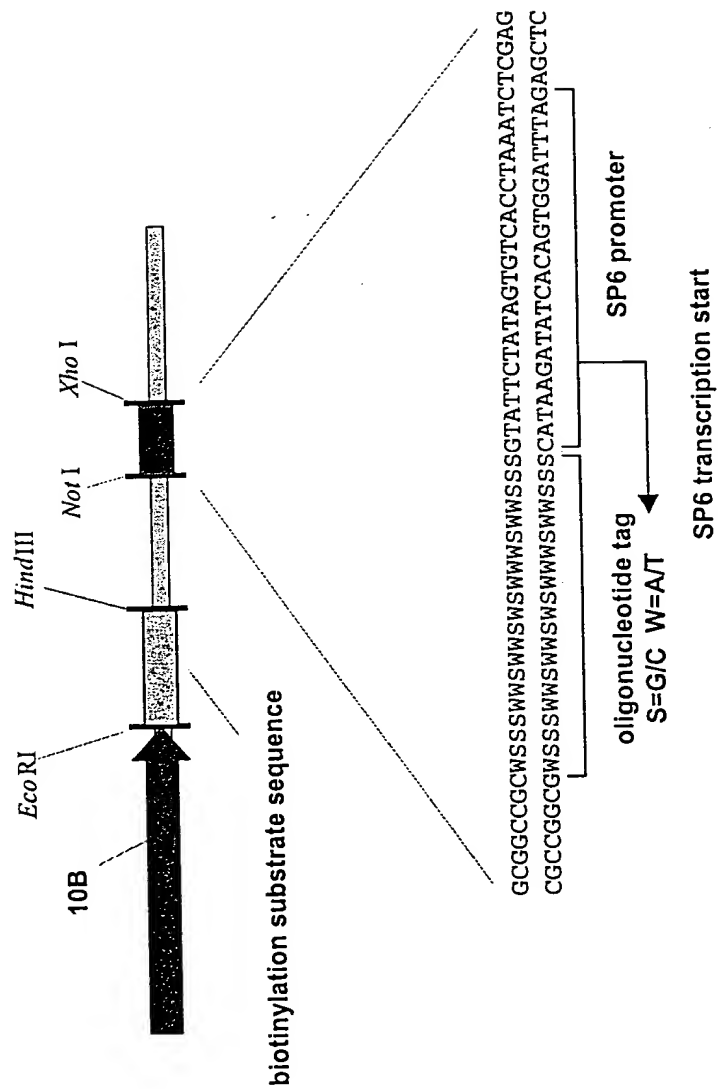


FIG. 12

Circular map of the p8Xeno 4832 bp plasmid. The map shows the following features:

- pBAD**: Labeled pBAD, with a transcription start arrow.
- Nhe I (1301)**: Restriction site.
- Bst XI (1383)**: Restriction site.
- Bst XI (1417)**: Restriction site.
- gene VIII**: Gene structure.
- Not I (1551)**: Restriction site.
- Sfi I (1570)**: Restriction site.
- Hin dIII (1577)**: Restriction site.
- Amp**: Ampicillin resistance gene.
- M13 Intergenic region**: Region between the pBR322 ori and the Amp gene.
- pBR322 ori**: Replication origin.
- araC**: AraC gene.

FIG. 13

Fig. 14 A

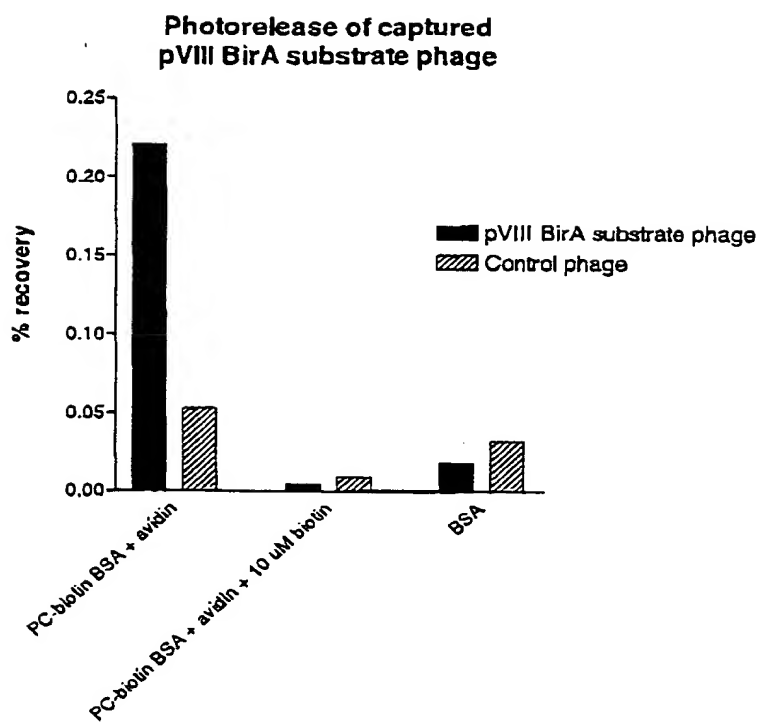
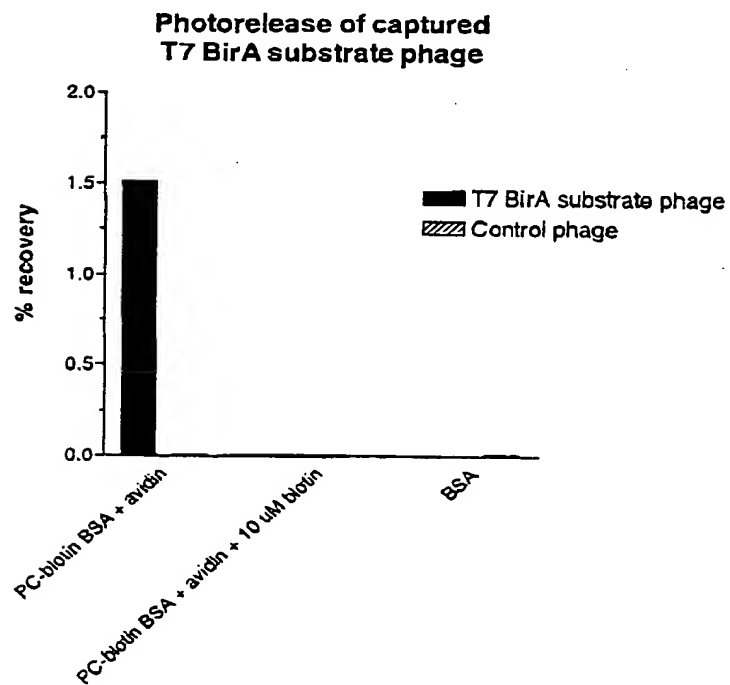



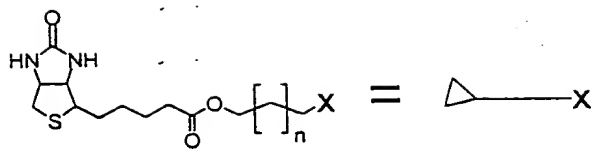
Fig. 14 B



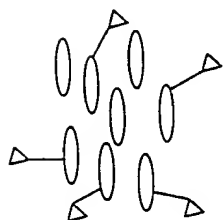


- (phage)

- (phage)

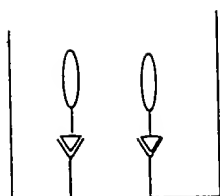


biotinylation reagents

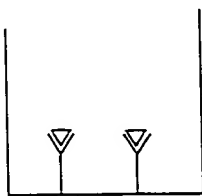


(biotinylated phage)

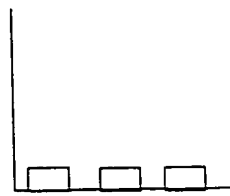
capture/wash/ELISA



Avidin



Biotin



BSA

FIG. 15

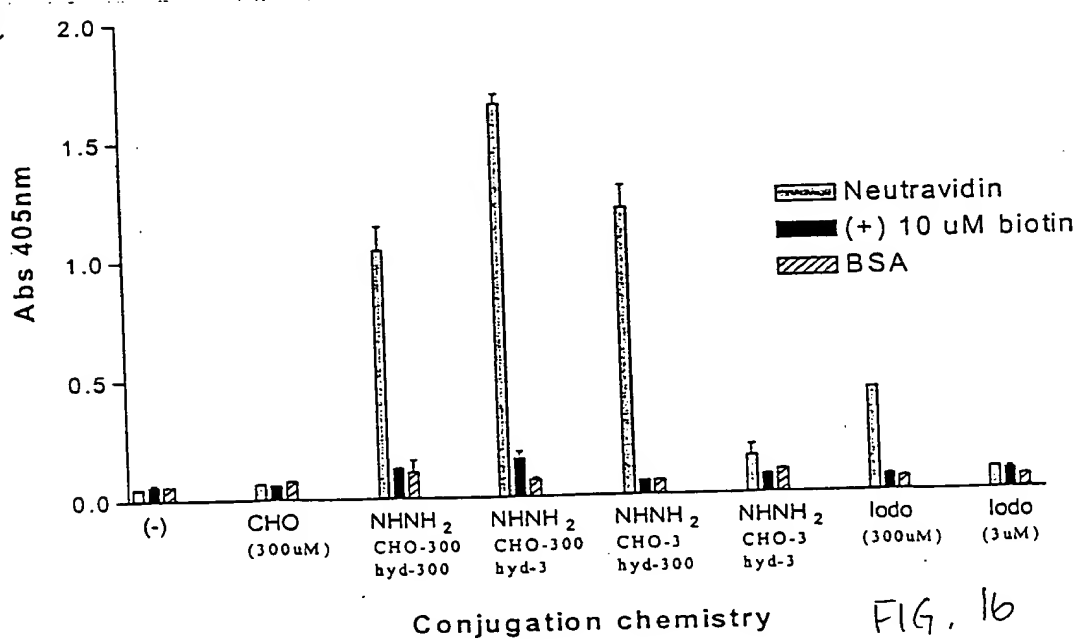
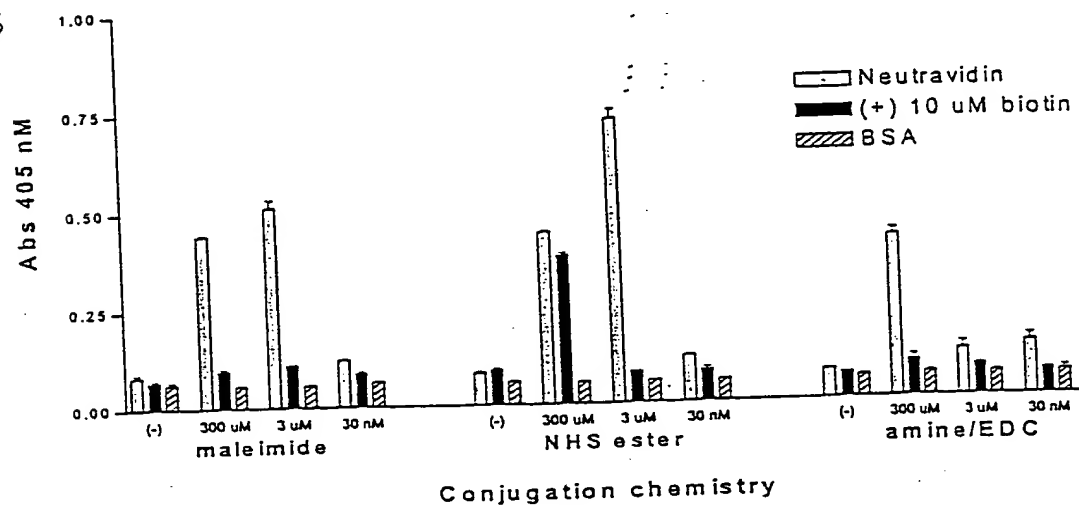
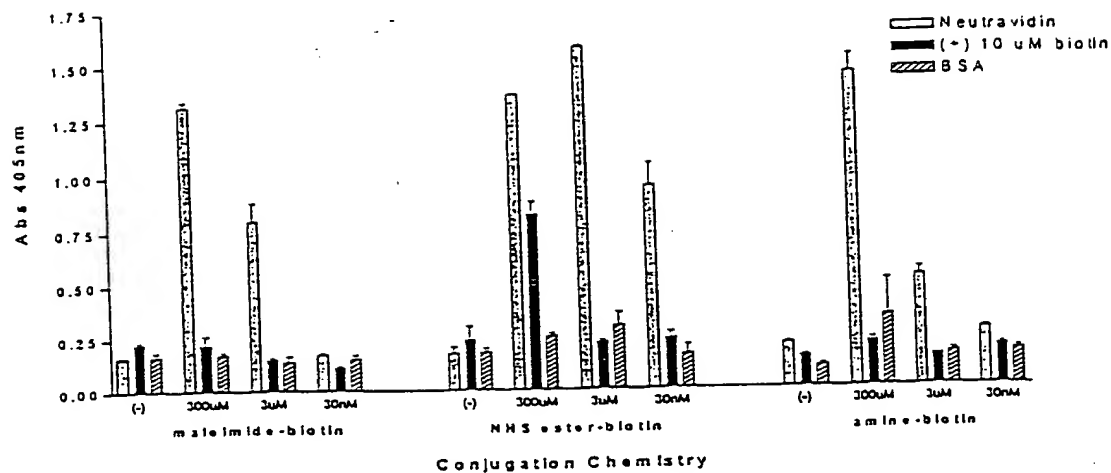


FIG. 16

FIG. 17A

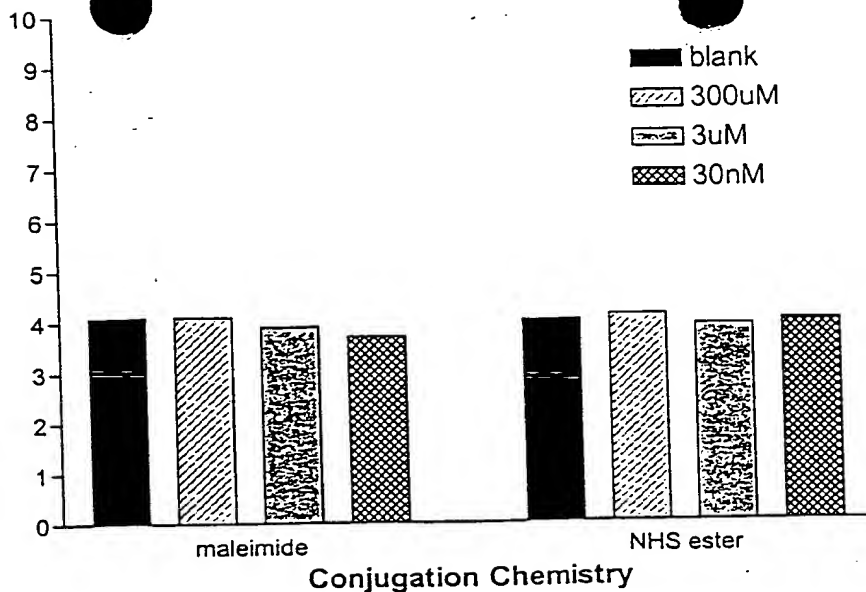


FIG. 17B

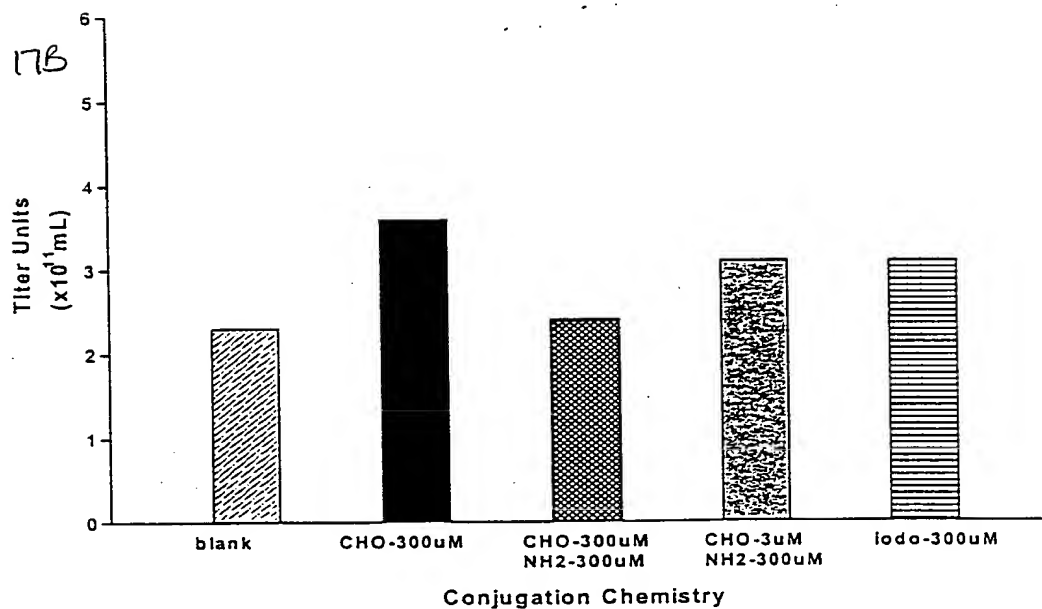


FIG. 17C

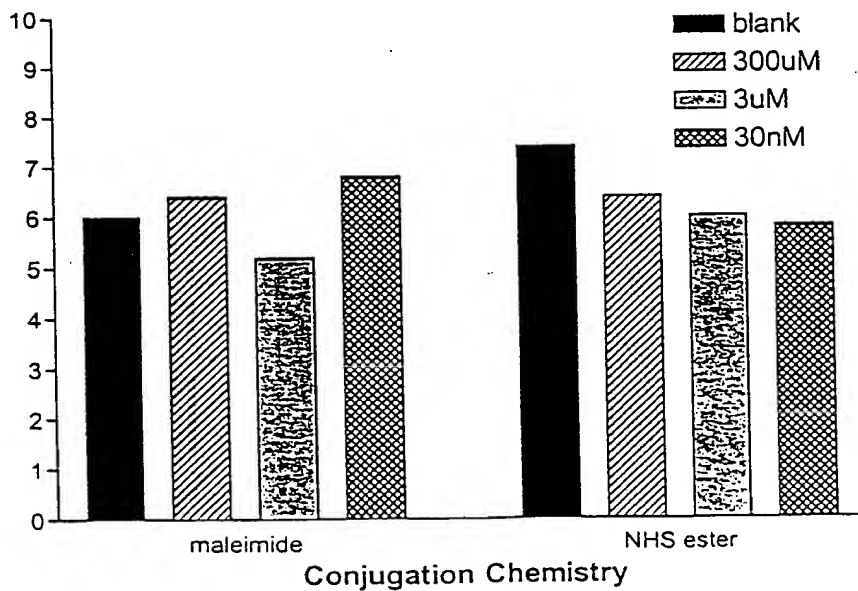
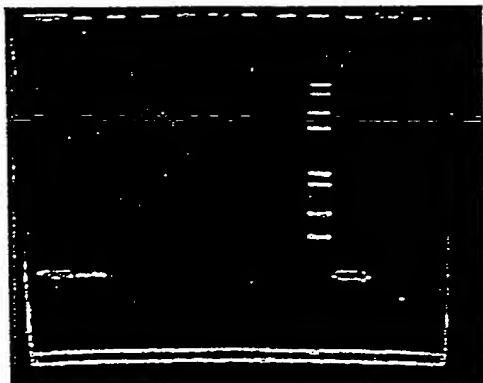


FIG. 18

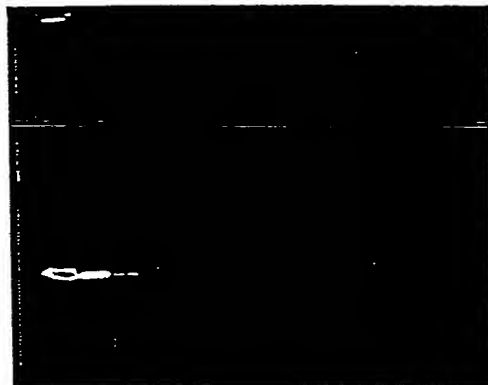
A: All proteins

1 2 3 4 5 6 7 8 9 10 11



B: Fluoresceinated proteins

1 2 3 4 5 6 7 8 9 10 11



Lanes 1-8: Fd phage treated with fluorescein-NHS ester (2X dilutions)

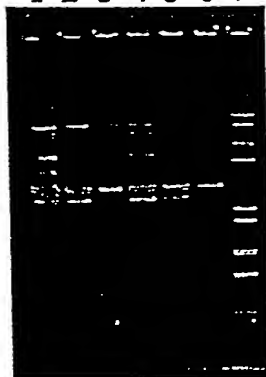
Lane 9: MW markers

Lane 10-11: Fd phage treated with fluorescein-CO₂H (10X dilution)

FIG. 19

A: All proteins

1 2 3 4 5 6 7



B: Fluoresceinated proteins

1 2 3 4 5 6 7



← Gene 10
capsid protein →

Lanes 1-3: T7 phage treated with fluorescein-CO₂H (2X dilutions)

Lane 4-6: T7 phage treated with fluorescein-NHS ester (2X dilutions)

Lane 7: MW marker

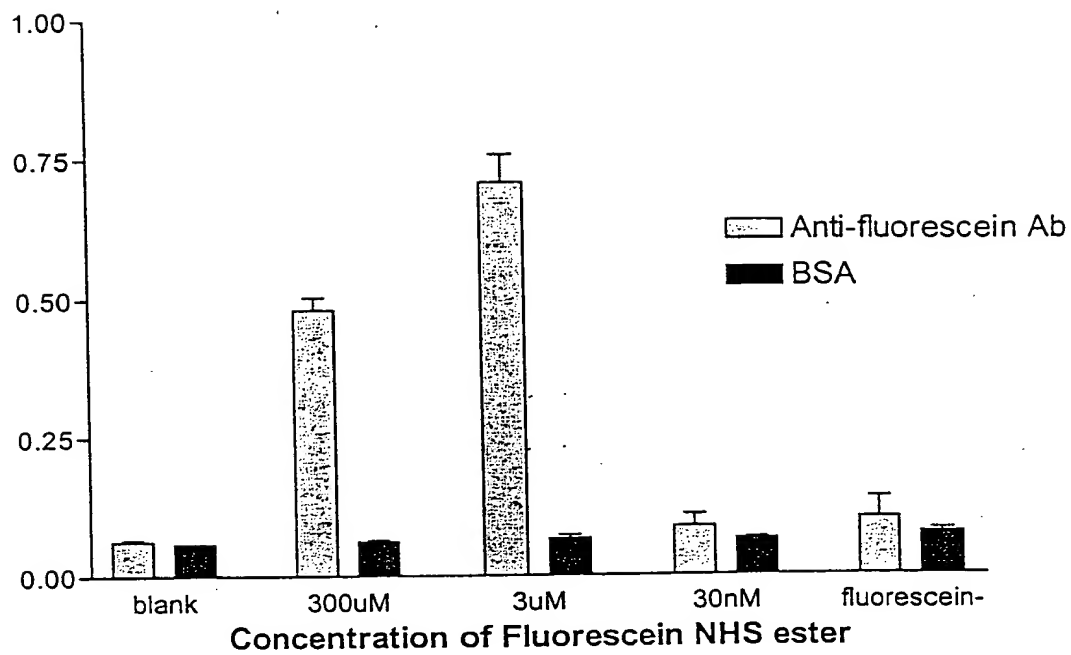


FIG. 20

The diagram illustrates the workflow of a probe colony lift assay in four stages:

- capture**: A mixture of cells (represented by ovals) and phages (represented by ovals with a tail) is shown. An arrow labeled "capture" points to the next stage.
- wash**: The mixture is shown in a container. An arrow labeled "wash" points to the next stage.
- elute**: The mixture is shown in a container. An arrow labeled "elute" points to the next stage.
- probe colony lift**: The mixture is shown in a container. An arrow labeled "probe colony lift" points to the final stage.

The final stage shows a circular plate with three colonies (represented by ovals) and one phage (represented by an oval with a tail) attached to the plate.

FIG. 21

A bar chart showing the absorbance at 405 nm (Abs 405nm) for four dyes (BODIPY, Dansyl, Fluorescein, Texas Red) across five antibody treatments: anti-BODIPY, anti-Dansyl, anti-fluorescein, anti-Texas Red, and BSA. The y-axis ranges from 0.0 to 2.0. The x-axis is labeled 'Dye'. The legend indicates: anti-BODIPY (solid black), anti-Dansyl (dotted), anti-fluorescein (white), anti-Texas Red (cross-hatched), and BSA (grid).

Dye	anti-BODIPY	anti-Dansyl	anti-fluorescein	anti-Texas Red	BSA
BODIPY	1.75	0.05	0.05	0.10	0.05
Dansyl	0.05	0.80	0.05	0.10	0.05
Fluorescein	0.15	0.05	0.80	1.25	0.05
Texas Red	0.30	0.10	0.05	1.95	0.05

FIG. 22